

Appl. No. 10/731,336
Amdt. dated October 24, 2005
Reply to Office Action of July 27, 2005

Atty. Ref. 81912.0017
Customer No. 26021

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-8. (Canceled)

9. (Currently amended) A nitride based semiconductor light-emitting device comprising:

a substrate;

a first conductive type nitride based semiconductor layer formed on the substrate;

an active layer with a p-n junction formed on said first conductive type nitride based semiconductor layer, said active layer being made of a nitride based semiconductor layer having the p-n junction;

a second conductive type nitride based semiconductor layer formed on said active layer, said second conductive type nitride based semiconductor layer being provided with protrusions having fine recesses formed on a surface thereof of the protrusions;

a first ohmic electrode formed on the surface of said second conductive type nitride semiconductor layer; and

a second ohmic electrode formed on said first conductive type nitride based semiconductor layer.

10. (Previously presented) A nitride based semiconductor light-emitting device comprising:

a substrate;

a first conductive type nitride based semiconductor layer formed on the substrate;

an active layer with a p-n junction formed on said first conductive type nitride based semiconductor layer, said active layer being made of a nitride based semiconductor layer having the p-n junction;

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a second conductive type nitride based semiconductor layer formed on said active layer, said second conductive type nitride based semiconductor layer being provided with protrusions whose surface includes regions out of stoichiometric compositions;

a first ohmic electrode formed on the surface of said second conductive type nitride based semiconductor layer; and

a second ohmic electrode formed on said first conductive type nitride based semiconductor layer.

11. (Canceled)

12. (Currently amended) A nitride based semiconductor light-emitting device, comprising:

a substrate;

a first conductive type nitride based semiconductor layer formed on the substrate;

an active layer with a p-n junction formed on said first conductive type nitride based semiconductor layer, said active layer being made of a nitride based semiconductor layer having the p-n junction;

a second conductive type nitride based semiconductor layer formed on said active layer, said second conductive type nitride based semiconductor layer being provided with at least two sizes of protrusions formed on a surface thereof of the second conductive type nitride based semiconductor layer, said protrusions being provided with fine recesses formed on a surface of the protrusions;

a first ohmic electrode formed on the surface of said second conductive type nitride based semiconductor layer; and

a second ohmic electrode formed on said first conductive type nitride based semiconductor layer.

13. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 9, wherein said protrusions have small and large ones.

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14. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 10, wherein said protrusions have small and large ones.

15. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12 wherein said at least two sizes of protrusions have large and small ones and said large protrusions are higher in height than the small protrusions.

16. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 13 wherein said large protrusions are higher in height than the small protrusions.

17. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 14 wherein said large protrusions are higher in height than the small protrusions.

18. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12, wherein said protrusions have small and large ones and said large protrusions are wider in width than the small protrusions.

19. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 13, wherein said large protrusions are wider in width than the small protrusions.

20. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 14, wherein said large protrusions are wider in width than the small protrusions.

21. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12, wherein said protrusions have small and large ones and said large protrusions are higher in height and wider in width than the small protrusions.

22. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 13, wherein said large protrusions are higher in height and wider in width than the small protrusions.

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23. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 14, wherein said large protrusions are higher in height and wider in width than the small protrusions.

24. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12, wherein said protrusions have small and large ones and said large protrusions are wider in width than the small protrusions but said large protrusions are substantially equal in height to the small protrusions.

25. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 13, wherein said large protrusions are wider in width than the small protrusions but said large protrusions are substantially equal in height to the small protrusions.

26. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 14, wherein said large protrusions are wider in width than the small protrusions but said large protrusions are substantially equal in height to the small protrusions.

27. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 9 wherein said large protrusions are substantially hexagons in a plan view.

28. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 10 wherein said large protrusions are substantially hexagons in a plan view.

29. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12 wherein said protrusions are substantially hexagons in a plan view.

30. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 9 wherein said second conductive type nitride based semiconductor layer is made from p-type InGaAlN system materials.

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31. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 10 wherein said second conductive type nitride based semiconductor layer is made from p-type InGaAlN system materials.

32. (Previously presented) A nitride based semiconductor light-emitting device according to Claim 12 wherein said second conductive type nitride based semiconductor layer is made from p-type InGaAlN system materials.